

IN THE CLAIMS:

1. (Currently Amended) A method for calibrating a camera of a camera-based image processing system, the method comprising the steps of:

presenting via a graphical user interface a representation of an area in which the camera is to be operated;

selecting at least one calibration point presented in the representation;

obtaining, responsively to said selecting, calibration information for each of a set of one or more calibration pointsselected point sequentially as the camera is pointed to the corresponding positions in the area; and

entering, for said each selected point of the one or more calibration points, a command ~~is entered~~ identifying a corresponding position of the ~~calibration~~selected point within the said representation of the area as presented via the graphical user interface; and

computing at least one of position and orientation information for the camera based on the obtained calibration information ~~obtained for the one or more calibration points.~~

2. (Currently Amended) The method of claim 1, wherein said at least one calibration point~~the set of calibration points~~ comprises a single calibration point and the computed information comprises a pan bias for the camera.

3. (Currently Amended) ~~The method of claim 1~~ A method for calibrating a camera of a camera-based image processing system, the method comprising the steps of:
presenting via a graphical user interface a representation of an area in which the camera is to be operated;
obtaining calibration information for each of at least three calibration points sequentially as the camera is pointed to the corresponding positions in the area and, for each of the calibration points, a command is entered identifying a corresponding position of the calibration point within the representation of the area as presented via the graphical user interface; and
computing at least one of position and orientation information for the camera based on the calibration information obtained for the calibration points, wherein
~~the set of calibration points comprises at least three calibration points, and the computer~~
information comprises a two-dimensional position of the camera and a pan bias of the camera.

4. (Currently Amended) The method of claim 1, wherein said at least one calibration point constitute a set comprised of~~the set of calibration points comprises at~~
least three calibration points, and the computed information comprises a tilt bias of the camera.

5. (Currently Amended) The method of claim 1 wherein a user points the camera to a position in the area of said corresponding position~~to a given one of the~~

calibration points by adjusting at least one of a pan setting, a tilt setting and a zoom setting of the camera.

6. (Currently Amended) The method of claim 1 wherein ~~a user enters a command to indicate to the system that the camera is pointed to a position in the area corresponding to one of the calibration points, such that the obtaining step is carried out for the particular~~said corresponding position upon receipt of the command.

7. (Original) The method of claim 1 wherein the area in which the camera is to be operated comprises a room, at least a portion of which is monitored by the camera.

8. (Original) The method of claim 1 wherein the orientation information comprises at least one of a pan bias and a tilt bias.

9. (Original) The method of claim 1 wherein the computing step computes a pan bias for the camera using the calibration information and assuming that the camera position is known and the tilt bias is zero.

10. (Currently Amended) The method of claim 1 wherein the computing step computes a camera position and a pan bias for the camera using the calibration information and assuming that ~~the~~a camera height is known and the tilt bias is zero.

11. (Original) The method of claim 1 wherein the computing step computes a tilt bias for the camera after first determining a camera position and a pan bias for the camera.

12. (Currently Amended) An apparatus for use in calibrating a camera of a camera-based image processing system, the apparatus comprising:

a processor operative: (i) to present via a graphical user interface a representation of an area in which the camera is to be operated; (ii) to select at least one calibration point presented in the representation; ~~(ii)(iii)~~ to obtain, responsively to said selecting, calibration information for each of a set of one or more calibration points ~~selected point~~ sequentially as the camera is pointed to the corresponding positions in the area and, to enter, for each said selected point ~~of the one or more calibration points,~~ a command ~~is entered~~ identifying a corresponding position of the ~~calibration~~ selected point within the said representation of the area as presented via the graphical user interface; and ~~(iiiiv)~~ to compute at least one of position and orientation information for the camera based on the obtained calibration information ~~obtained for the one or more calibration points; and;~~

a memory coupled to the processor and operative to store at least a portion of the obtained calibration information.

13. (Currently Amended) The apparatus of claim 12 wherein said at least one calibration point ~~the set of calibration points~~ comprises a single calibration point and the computed information comprises a pan bias for the camera.

14. (Currently Amended) The apparatus of claim 12, wherein said at least one calibration point constitute a set comprised of~~the set of calibration points comprises~~ at least three calibration points, and the computed information comprises a two-dimensional position of the camera and a pan bias of the camera.

15. (Currently Amended) The apparatus of claim 12 wherein said at least one calibration point constitute a set comprised of~~the set of calibration points comprises~~ at least three calibration points, and the computed information comprises a tilt bias of the camera.

16. (Original) The apparatus of claim 12 wherein a user points the camera to a position in the area corresponding to a given one of the calibration points by adjusting at least one of a pan setting, a tilt setting and a zoom setting of the camera.

17. (Original) The apparatus of claim 12 wherein ~~a user enters a command to indicate to the system that the camera is pointed to a position in the area corresponding to one of the calibration points, such that the~~ respective calibration information is obtained for ~~the particular~~ said corresponding position upon receipt of the command.

18. (Original) The apparatus of claim 12 wherein the area in which the camera is to be operated comprises a room, at least a portion of which is monitored by the camera.

19. (Original) The apparatus of claim 12 wherein the orientation information comprises at least one of a pan bias and a tilt bias.

20. (Original) The apparatus of claim 12 wherein the processor is further operative to compute a pan bias for the camera using the calibration information and assuming that the camera position is known and the tilt bias is zero.

21. (Currently Amended) The apparatus of claim ~~12~~, wherein the processor is further operative to compute a camera position and a pan bias for the camera using the calibration information and assuming that the camera height is known and the tilt bias is zero.

22. (Currently Amended) The apparatus of claim ~~12~~, wherein the processor is further operative to compute a tilt bias for the camera after first determining a camera position and a pan bias for the camera.

23. (Currently Amended) An article of manufacture comprising a storage medium for storing one or more programs for use in calibrating a camera of a camera-based image processing system, wherein the one or more programs when read and executed by a processor implement the steps of:

presenting via a graphical user interface a representation of an area in which the camera is to be operated;

selecting at least one calibration point presented in the representation;
obtaining, responsively to said selecting, calibration information for each
~~of a set of one or more calibration points~~selected point sequentially as the camera is
pointed to the corresponding positions in the area and;
entering, for said each selected point~~of the one or more calibration points,~~
a command is ~~entered~~ identifying a corresponding position of the ~~calibration~~selected
point within the said representation of the area as presented via the graphical user
interface; and
computing at least one of position and orientation information for the
camera based on the obtained calibration information ~~obtained for the one or more~~
~~calibration points.~~